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Japanese Psychological Research, 58(S1), 4-18, 2016 DOI:10.1111/jpr.12111

A National Survey of Psychology Education Programs and Their Content in Japan

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[1] This research is supported by the Japanese Psychological Association.
[2] We would like to express our thanks to the former president of the society, Takao Sato, the office director, Atsuko Suzuki, and staff member, Ryo Karisawa, for their assistance in conducting this research. We would also like to thank all respondents for the time and effort that they took to return and complete the questionnaire. Finally, we would like to acknowledge and thank Asako Miura and Makoto Masutani fort heir support in preparing and conducting the research.

Abstract

This study reports the results of a national survey of psychology programs in Japan, conducted by the Committee on the Education and Research of the Japanese Psychological Association, based on 443 responses from program heads of 378 colleges, universities, and graduate schools. We analyzed the data by institution and type of degree program. The results indicated that (a) undergraduate-level psychological education in Japan is mainly provided by private universities (which account for 71% of all psychology graduates at this level), while Master's (60%) and Ph.D. (83%) programs are mainly provided by national and public universities; (b) the largest groups of faculty members by specialization are in clinical psychology and in developmental and educational psychology; (c) the dominant forms of teaching are lectures and seminars; and (d) most psychology major programs in Japan aim to improve students' academic and generic skills. Finally, we suggest how psychology programs in Japan can reform curriculum and better improve students' academic skills on the basis of their generic skills.

Keywords: psychology education, undergraduate education, graduate education, psychology curriculum, generic skills.

There has been no recent formal research into the structure and characteristics of psychology education at Japanese universities. Though there is some official information on these matters, it is not adequate to compare our psychology education at Japanese universities with that in other countries. The primary purpose of this paper, therefore, is to explore the psychology education currently being offered at universities in Japan and to offer some observations and suggestions as a basis for future discussion of these programs.

The Committee on Education and Research of the Japanese Psychological Association conducts a survey of psychology program about undergraduate and graduate psychology education in Japan. The questionnaire items ask about teaching staff, program content, teaching style, jobs of alumni, etc. The first university psychology section *(kouza* in Japanese) in the country was established by Professor Yujiro Motora at the Imperial University (now the University of Tokyo) in 1890 and the second one at Kyoto Imperial University (now Kyoto University) by Professor Matataro Matsumoto in 1906 (Sato, 2002). There were about 15 psychology programs in Japanese universities prior to 1945 (Japanese Psychological Association, 2002, Tanaka-Matsumi, 2010); after World War II, the number of psychology programs, especially of those focusing on experimental and educational psychology, increased along with the overall number of universities in the country. Starting in 1988, there has been a further increase along with an increase in socially perceived need for clinical counseling services and a resulting certification system for clinical psychologists, and a clinical psychology

boom beginning in the 1990s.[3]

At present, psychology is one of the most popular undergraduate majors in Japan. As of the early 1990s, there were about 200 psychology programs within psychology departments or departments in related fields such as education, sociology, and social welfare (Sato, 2002; Takuma & Yamamoto, 1996; Tanaka-Matsumi & Otsui, 2004); and by 2000, the Japanese Psychological Association was reporting the results of a survey of psychology programs based on 268 institutions (Japanese Psychological Association, 2002).

Psychology programs in Japan can be divided into a four-year undergraduate program and two- or five-year graduate programs. In the undergraduate programs, typical psychology majors take introductory lectures and seminars with other students in their freshman year; statistics, experimental method, and introductory classes in specific subfields in their sophomore year; advanced lectures and practical courses on specific topics in their junior year; and complete a thesis in their senior year.

Japanese psychology graduate programs can be divided into a two-year master's and a three-year Ph.D. or a five-year Ph.D. for researchers as well as two-year master's programs for practitioners and teachers. Since 1988, the Foundation of the Japanese Certification Board for Clinical Psychologists has required a master's degree to become a Japan Certified Clinical Psychologist. As a result, the number of certificated graduate programs in clinical psychology increased in the 1990s (Sato, 2002; Tanaka-

[3] Of the top three psychological societies in Japan, the Association of Japanese Clinical Psychology has 26,676 members as of 2015; the Japanese Psychological Association has 7,746, and the Japanese Association of Educational Psychology has 6,602 (Japanese Union of Psychological Associations, 2015).

Matsumi & Otsui, 2004).

The goals of psychology education have been defined in the *Guidelines for Psychology Majors* by the Science Council of Japan, Committee on Psychology and Education, in 2014 (Science Council of Japan, Committee on Psychology and Education, 2014).[4] The guideline defined four target abilities of psychology majors (objective understanding of the total human, diversity and universality, the interaction of humans and environment, and professional ability) and four generic skills (multiple perspectives, critical thinking, problem-finding and -solving, and communication) (Science Council of Japan, Committee on Psychology and Education, 2014). In contrast, the American Psychological Association has developed the *APA Guidelines for the Undergraduate Psychology Major* (American Psychological Association, 2013 [Version 2.0]). This framework includes four skills-based goals (knowledge base in psychology, scientific inquiry and critical thinking, ethical and social responsibility in a diverse world, and communication) and one content-focused goal (professional development). Our survey explores the goals of psychology education based on these guidelines. In keeping with this approach, the purpose of the analysis of skills data is to determine what skills Japanese psychology teachers believe to be important at present. We have not yet made final judgment on what skills the results show are important, but this analysis will ultimately influence the future research directions of psychologists in Japan. We reserve our final judgment whether these guidelines should be the goals of psychology education, but it is important to describe the actual opinions of teachers on psychology education

[4] We reserve our final judgment regarding whether these guidelines should be the goals of psychology education, but it is important to describe the actual opinions of teachers of psychology education within the frame of the guidelines.

in the frame of the guidelines. We will compare our results with those for 49 countries researched by IUPsyS and reported in the study of Pinquart & Bernardo in 2014, as well as results for the United States provided by the study of Messer, Griggs and Jackson in 1999 and the study of Stoloff, Good, Smith and Brewster in 2015. On this basis we will suggest how programs of psychology education in Japan should be constituted in future.

Method

The Survey and Respondents

A preliminary survey was conducted from March to September 2013. The two pages of the survey questionnaire were sent to 816 colleges, universities, and graduate schools all over Japan in order to ask if they had full-time teachers engaged in psychology and if so, how the psychology curriculum was conducted. In all, 366 faculty deans or department chairs answered our survey (the return rate was 45%). In total, in Japan, according to a 2014 report from MEXT (Ministry of Education, Culture, Sports, Science and Technology), there are 781 universities and 352 colleges. Considering the results of the preliminary survey, as well as the Japanese Psychological Association's list of members' academic affiliations, the list of applicants for a Certified Psychologist credential, and information released by a Japanese education corporation as an educational resource (Benesse Co., 2013), 941 faculties and departments in 778 colleges, universities, and graduate schools were finally selected as the objects of our survey.

Main Survey

The "Survey of Psychology Education in Japanese Universities," a brochure of nine pages, was sent to the heads of faculties and departments (deans, chairs, chiefs,

etc.) selected for our survey, requesting that they fill out the necessary information by January 2014 and send the answer sheet back to the Japanese Psychological Association. The request was made three times more to those who had not answered during the first one year and three months. Finally, 443 faculties and departments in 378 colleges, universities, and graduate schools responded, for a return rate of 47%. We categorized the 443 faculties and departments into three categories: "psychology as major with graduate program" (n = 124), "as major without graduate program" (n = 104), and "not as major" (n = 215).

Questionnaire

The items on the survey were divided into 10 sections, as follows. Sections 5 and 7 were adopted from a survey performed in 2010 by IUPsyS in 49 countries (Pinquart & Bernardo, 2014).

1. Select the type of your university out of 1. national university, 2. prefectural or municipal (public) university, 3. prefectural or municipal (public) junior college, 4. private university, or 5. private junior college.

2. Write the name of your university, the name of your faculty or graduate school, and the name of your department or major, or specialized field of study if any.

3. Select the level of your psychology education classes: 1. faculty or graduate school level, 2. department level, 3. specialized field level, 4. seminar level organized by one or two professors, or 5. any other level than those above)

4. Give the number of psychology professors, associate professors, lecturers, assistant professors, and any other kind of psychology staff, respectively, in the five classified fields (see Table 1). And also give the number of fixed-term employees out of these. (See

Table 1, Table 2).

5. If you have any of the 31 psychology courses in Table 4, are they elective or compulsory? If there are other courses, please name them all.

Table 1
Table 2

6. Select the required skills (up to 15 items) and the desired skills out of the list of 27 skills expected to be acquired before graduation in psychology education. The items are grouped into two categories for each of four types of skills: skills for academic research literacy, skills for psychology professionals, skills for jobs in general, and skills for life in general. (Each grouping is shown in column 2-4, Table 5.)

7. Show how many courses of psychology education per week are held in total as well as in each format, of lectures, seminars, tutorials, laboratory sessions, practicum and internships, research assistantships, and peer tutoring, respectively in your undergraduate, master's, and Ph.D. programs and in any other program. And also show how many of them are held in English. (See Table 4.)

8. Show the qualifications available in your psychological curriculum and which of these are actually acquired by more than half of your students before graduation.

9. How many students do you have in your psychological faculty or department? And how many of them are female, foreign students, and/or public or private scholarship recipients?

10. What were the career paths of the graduates in the last academic year (2013)? Write the number (of students for each item) in the following list of places of employment and also show the percentage of students who acquired jobs related to their study of psychology.

The last part of the questionnaire involved free answer on the characteristics

of the school's curriculum in psychology education, the purpose of the program(s), and the problems faced by it (them). Respondents were required to fill out all the above sections and return the answer sheet to the Japanese Psychological Association, with both a program description and a list of all the subjects related to psychology education.

Results and Discussion

We analyzed the data to better understand the current situation of psychology education and what kinds of skills Japanese psychology teachers think are important. In this section, first, the findings on program characteristics of psychology education (faculty members, curriculum, etc.) are presented. Second, the results on skills for psychology majors are presented. We compared the three levels of program by performing a χ^2 test for each dependent variable.

Faculty and Courses

This section summarizes the results on the faculty members, curriculum, and courses offered by psychology-related departments of Japanese universities.

In Table 2, positions in faculty (Questionnaire Section 4) are crosstabulated with university types (Section 1). As shown in the table, the ratio of full professors was highest in private universities (42.0%) in comparison with national and public universities. This is likely because in Japan, compulsory retirement age is generally higher in private universities than in national and public universities (about 70 and 65 years old respectively). It was also observed that the number of psychology faculty in junior colleges is very small. Since it may therefore be difficult to obtain meaningful results for junior colleges as such, in the following results we do not any longer distinguish junior colleges from universities, and instead just use three categories:

national, public, and private universities. In Table 2, faculty positions are crossreferenced with subfields of specialization (Section 4). The proportion of specializations is large in clinical psychology (45.2%) and in developmental and educational psychology (25.4%). In contrast, the presence of experimental psychology fields (perceptual, physiological, cognitive, and learning psychology) is not large (13.9%). In addition, interestingly, 50.2% of these experimental psychologists are in "other positions" (e.g., postdoctoral researcher). The proportion of faculty who are full professors is large in social-industrial psychology (86.3%) and clinical psychology (42.3%). This might be because professional experience in the field is required or highly valued for qualification as a faculty member in these disciplines. Full professors are also common in the methodological subfield (74.6%), but care may be needed in interpreting this result, because the total fraction of faculty with methodological specialization was very small (0.9%) in the first place. Still, the numbers in this table may suggest future career development possibilities for young researchers.

Table 3 represents the number of compulsory and elective (in parentheses) psychological courses offered by universities (Section 5). They are subtotaled by undergraduate (left column), master's (middle column) and Ph.D. (right column) programs. The thesis was revealed to be the most often offered compulsory course across all levels. In the United States, in comparison, 16% (81 of 513) programs require such a culminating research project (Messer, Griggs, & Jackson, 1999). In undergraduate programs, general psychology, laboratory experiments, and psychological statistics, in that order, followed as the most common compulsory courses. Concerning statistics courses, compulsory and elective courses accounted for 30% and 37% respectively in

Table 3

Japan, with the remainder of programs not offering statistics for psychology students (while the percentage of compulsory courses is 77% in the United States (Messer, et al., 1999). In master's programs, clinical psychology and internship followed as the next-most-common compulsory courses, characterizing the difference between undergraduate and graduate programs. There were few compulsory courses in Ph.D. programs.

Table 4 represents the number of courses in each format provided by universities (Section 7). Lectures were the most common class format in undergraduate programs. Laboratory sessions are also common in undergraduate programs. Lectures were also the most popular in master's programs, although seminars and tutoring increased their respective percentages. In Ph.D. programs, seminars took the top position, with lectures in second place. This table also reveals that classes given in English are very few overall.

Table 4

Skills and Knowledge for Psychology Majors

What kinds of skills are Japanese psychology undergrads expected to acquire? Twenty-seven items are shown in Table 5. All the responses are aggregated into three categories: psychology as major with graduate program, as major without graduate program, and not as major. Columns 7–9, 11–13, and 15–17 show the frequency with which an item was selected, which indicates whether it is "unimportant," "important," or "very important." In order to determine whether there is any association between university categories and responses, a χ^2 test was conducted for each item. χ^2 values are shown in the second-leftmost column. We conducted a χ^2 test in place of an ANOVA, because the importance rating is not regarded as metric. Each value indicates the degree

Table 5

of the strength of association. The association was significant in all areas except skill at writing English papers. Each χ^2 value (columns 10, 14, and 18) indicates whether the skill was rated as important or not for each of the three university instruction levels. Generally, "unimportant" responses were more common for undergraduate programs. The association was greater in items Nos. 6, 7, 8, 10, 11, and 16, all related to academic research literacy and therefore less important for students who are not going on to graduate school in psychology.

In order to sum up and explore this interpretation further, we grouped the items into two categories for each of four factors: skills for academic research literacy, skills for psychology professionals, skills for jobs in general, and skills for life in general Although we referred to American Psychological Association (2013) and Science Council of Japan, Committee on Psychology and Education (2014), our groupings do not completely correspond to those ones. The groupings are shown in columns 2–5, Table 5. We allocated a numerical value of zero, one, or two to answers of "unimportant," "important," and "very important" respectively, and figured out the scaled score equaling the mean of each of these values. Each scaled score is shown in Table 6. We conducted an ANOVA using a 3 (category) by 4 (scale) framework: the main effect of category was significant ($F(2, 440) = 133.78$, $p < .001$), since the scores were lower in the "not as major" category. The main effect of scale was also significant ($F(3, 1320) = 74.92$, $p < .001$), as was the interaction ($F(6, 1320) = 32.76$, $p < .001$). Hence, we examined the effect of category on each scale. Every simple main effect of category was significant (Research literacy: $F(2, 442) = 153.53$, $p < .001$, Psychology professional: $F(2, 442) = 98.87$, $p < .001$, Jobs in general: $F(2, 442) = 162.64$, $p < .001$, Life in general: $F(2, 442) = 69.76$, $p < .001$).

The rating of skills of research literary and jobs in general are notably higher among major program teachers. Table 6

Quantifications and occupation after graduation.

In this section, we briefly present some basic statistics regarding what kind of qualifications the psychological curriculum is designed to impart (Section 8) and the types of occupations the students got after graduation (Section 10). We restrict the analysis to programs organized at levels 1 to 3 ("faculty or graduate school level," "department level," and "specialized field level") in Section 3, because most programs at levels 4 and 5 ("seminar level organized by one or two professors" and "any other level than those above") are liberal arts education or independent research project–level programs.

Section 8 considered the following prevalent certificates in Japan, provided by private institutions or government: Certified Psychologist (by the Japanese Psychological Association); Social Researcher and Advanced Social Researcher (by the Japanese Association for Social Research), School Psychologist (by the Japanese Organization of School Psychologists), Clinical Developmental Psychologist (by the Japanese Organization of Clinical Developmental Psychologists), Certified Clinical Psychologist (by the Foundation of the Japanese Certification Board for Clinical Psychologists), Certified Psychiatric Social Worker (a governmental qualification), and Teacher's Certificate (a governmental qualification).

The frequency distributions shown in Table 7 indicate that the Certified Psychologist can be seen as a widely recognized and established undergraduate-level certificate in Japan, in that about 75% (141 out of 187) program managers answered Table 7

that their curriculums are designed to meet its criteria—especially at private universities (109 programs out of 134). It is very striking that the proportion of programs that meets these requirements set by a professional association is higher than that for the Teacher's Certificate, provided by the government. At master's level, about half (57 out of 112) programs are designed to meet the requirements for Certified Clinical Psychologists, while no particular certificate is prevalently reflected in program design at Ph.D. level.

Section 10 asked what kinds of occupations students who graduated in March 2014 got after graduation. Table 8 shows the total number of graduated students and the frequency distributions of occupations after graduation. In Japan, undergraduate-level psychological education is mainly provided by private universities (about 71%), while the proportions at master's and Ph.D. level are 40% and 17% respectively (whereas the proportions at master's and Ph.D. level are 56% and 78% at national universities), which shows that national universities play an important role in graduate-level psychological education. The distribution of occupations after graduation differs according to education level and university type (see Figure 1). At the undergraduate level, psychology students at national universities are more likely to become teachers than students at private universities (probably because in Japanese national universities a large portion of psychology departments belong to schools of education), while the proportions of jobs in medical services and retail distribution service (e.g., warehousing, purchasing, sales, customer service) are much higher in private universities. Moreover, the proportion of undergraduate psychology students at national universities who go to graduate school is 13.5%, about twice that at private

Figure 1

universities (7%). The same tendencies apply to master's programs, but there is a difference, in that in the proportion of these people in psychology-related jobs (psychological/educational, medical/welfare services) is much larger (45%) than those at the undergraduate level (16%). The figure also indicates that even in Ph.D. programs, the proportion of people in professional research services, such as university faculty, is small at around 18%.

Conclusion

We conducted a national survey of the current state of psychology education in Japan. The main results, based on 443 responses from psychology program chairs, were as follows.

First, undergraduate-level psychological education is mainly provided by private universities (which account for 71% of all psychology graduates at this level), while Master's (60%) and Ph.D. (83%) programs are mainly provided by national and public universities. Faculty members most frequently specialize in clinical (45.2%) and development and educational psychology (25.4%), and rarely in methodology (0.9%), experimental psychology, (13.9%), or social psychology (14.6%). A balanced ratio of basic and applied psychologists among faculty members is needed in Japan for stronger psychology education and research development, across all areas of psychology. There are various possibilities for fostering such an improved ratio, but it might be important to consider the 2007 discussion of the Council for Science and Technology within MEXT (Iwasaki, 2007), which took up the problem of increasing the role of applied psychology in graduate schools while reducing that of basic psychology.

Second, clinical, educational, developmental, and social psychology are taught

in most universities, is similar to the other 48 countries reported on by the IUPsyS survey (Pinquart & Bernardo, 2014); however, the ethics of psychology is taught in only a few universities in Japan. Similar to the other 48 countries, the dominant forms of teaching are lecture and seminar. In Japan, most courses are in Japanese, but in 39.3% of IUPsyS countries classes are most often held in a foreign language, and another 25% use a mix of foreign and local languages at the undergraduate level.

Third, the importance of the four types of skills investigated for undergraduates is different across the three categories of psychology education adopted. Academic research skills are highly valued in schools offering psychology majors with graduate programs. Professional psychology skills and generic job skills are important in psychology majors with and without graduate program. Life skills in general are evaluated slightly higher in majors without graduate programs than with. Most psychology major education programs in Japan aim to improve students' academic and generic skills and skills relating to psychology professions. These results are similar to those for programs in the United States, which emphasize a knowledge base in psychology, critical thinking, and research skills (American Psychological Association, 2013) (Stoloff, Good, Smith, & Brewster, 2015). The proportion of jobs after graduation that are psychology related (i.e., in psychological/educational/medical/welfare services) is low in undergraduate-level programs but much larger in master's programs.

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(Received June 30, 2015; Accepted November 14, 2015)

Table 1

Number of Faculty in Psychology in Japanese Universities by Type

	Professor	Associate Professor	Lecturer	Assistant Professor	Other	Total
National University	586	525	240	27	87	1465
	(40.0%,21.4%)	(35.8%,25.1%)	(16.4%,17.9%)	(1.8%,22.7%)	(5.9%,17.6%)	(21.6%)
Public University	127	117	69	3	27	343
	(37.0%,4.6%)	(34.1%,5.6%)	(20.1%,5.2%)	(0.9%,2.5%)	(7.9%,5.5%)	(5.1%)
Private University	1866	1284	890	84	314	4438
	(42.0%,68.1%)	(28.9%,61.5%)	(20.1%,66.5%)	(1.9%,70.6%)	(7.1%,63.4%)	(65.4%)
Public Junior College	12	14	6	0	3	35
	(34.3%,0.4%)	(40.0%,0.7%)	(17.1%,0.4%)	(0.0%,0.0%)	(8.6%,0.6%)	(0.5%)
Private Junior College	16	10	10	3	5	44
	(36.4%,0.6%)	(22.7%,0.5%)	(22.7%,0.7%)	(6.8%,2.5%)	(11.4%,1.0%)	(0.6%)
Other	14	18	6	0	3	41
	(34.1%,0.5%)	(43.9%,0.9%)	(14.6%,0.4%)	(0.0%,0.0%)	(7.3%,0.6%)	(0.6%)
N/A	119	121	118	2	56	416
	(28.6%,4.3%)	(29.1%,5.8%)	(28.4%,8.8%)	(0.5%,1.7%)	(13.5%,11.3%)	(6.1%)
Total	2740	2089	1339	119	495	6782
	(40.4%)	(30.8%)	(19.7%)	(1.8%)	(7.3%)	(100.0%)

Note. Because department is the unit of the current survey, *N* here is the number of departments surveyed. Therefore, some universities are counted more than once because there are multiple psychology-related departments.

The cell percentages in the parentheses are given in the order (row-wise percentage, column-wise percentage).

Table 2

Number of Faculty in Psychology in Japanese Universities by Specialization Subfield

Specialization subfield	Professor	Associate professor	Lecturer	Assistant professor	Other	Total
Perceptual, physiological, cognitive, & learning	273 (29.0%, 10.0%)	130 (13.8%, 6.2%)	35 (3.7%, 2.6%)	31 (3.3%, 26.1%)	473 (50.2%, 95.6%)	942 (13.9%)
Developmental & educational	267 (15.5%, 9.7%)	848 (49.3%, 40.6%)	570 (33.1%, 42.6%)	29 (1.7%, 24.4%)	7 (0.4%, 1.4%)	1721 (25.4%)
Clinical, personality, criminal, & correctional	1296 (42.3%, 47.3%)	1009 (32.9%, 48.3%)	706 (23.0%, 52.7%)	43 (1.4%, 36.1%)	9 (0.3%, 1.8%)	3063 (45.2%)
Social, industrial, & cultural	857 (86.3%, 31.3%)	89 (9.0%, 4.3%)	27 (2.7%, 2.0%)	14 (1.4%, 11.8%)	6 (0.6%, 1.2%)	993 (14.6%)
Methodological, principal, historical, & general	47 (74.6%, 1.7%)	13 (20.6%, 0.6%)	1 (1.6%, 0.1%)	2 (3.2%, 1.7%)	0 (0.0%, 0.0%)	63 (0.9%)
Total	2740 (40.4%)	2089 (30.8%)	1339 (19.7%)	119 (1.8%)	495 (7.3%)	6782 (100.0%)

Note. The cell percentages in the parentheses are given in the order (row-wise percentage, column-wise percentage).

Table 3

Number of Compulsory (Elective) Psychology Courses at the Undergraduate (n = 343), Master's (n = 105) and Ph.D. (n = 75) Levels Offered by Japanese Universities

Courses	Undergraduate program					Master's program					Ph.D. program			
	National Univ	Public Univ	Private Univ	Others / NA	Total	National Univ	Public Univ	Private Univ	Others / NA	Total	National Univ	Public Univ	Private Univ	Total
General education	26 (23)	1 (17)	77 (102)	2 (0)	106 (142)	2 (1)	0 (0)	3 (6)	1 (1)	6 (8)	0 (0)	0 (0)	1 (1)	1 (1)
General psychology	24 (33)	8 (10)	98 (94)	2 (0)	132 (137)	1 (0)	0 (0)	3 (2)	1 (1)	5 (3)	0 (0)	0 (0)	0 (1)	0 (1)
History of psychology	0 (7)	0 (1)	7 (36)	0 (2)	7 (46)	0 (2)	0 (0)	0 (3)	0 (2)	0 (7)	0 (0)	0 (0)	0 (1)	0 (1)
Perceptual psychology	3 (22)	1 (5)	5 (73)	0 (2)	9 (102)	1 (18)	0 (2)	1 (15)	0 (2)	2 (37)	0 (8)	0 (1)	0 (5)	0 (14)
Cognitive psychology	6 (53)	1 (9)	15 (124)	0 (2)	22 (188)	1 (45)	0 (4)	2 (33)	0 (2)	3 (84)	0 (15)	0 (1)	1 (10)	1 (26)
Psychology of learning	4 (33)	0 (7)	9 (108)	0 (2)	13 (150)	2 (28)	0 (0)	2 (32)	0 (2)	4 (62)	1 (5)	0 (0)	0 (7)	1 (12)
Developmental psychology	13 (40)	3 (13)	48 (144)	1 (1)	65 (198)	6 (38)	0 (8)	7 (57)	0 (2)	13 (105)	1 (9)	0 (3)	1 (14)	2 (26)
Physiological / neural psychology	2 (27)	0 (6)	4 (87)	0 (2)	6 (122)	0 (19)	0 (2)	1 (34)	0 (1)	1 (56)	0 (7)	0 (1)	1 (6)	1 (14)
Comparative / animal psychology	1 (14)	0 (3)	4 (43)	0 (2)	5 (62)	0 (12)	0 (0)	0 (11)	0 (1)	0 (24)	0 (5)	0 (0)	0 (2)	0 (7)
Social psychology	3 (48)	1 (11)	19 (150)	0 (2)	23 (211)	1 (38)	0 (5)	3 (47)	0 (2)	4 (92)	0 (13)	0 (2)	1 (10)	1 (25)
Psychology of individual differences	0 (7)	0 (1)	2 (16)	1 (1)	3 (25)	0 (8)	0 (0)	0 (6)	0 (1)	0 (15)	0 (5)	0 (0)	0 (3)	0 (8)
Personality psychology	1 (31)	0 (4)	8 (118)	0 (2)	9 (155)	0 (19)	0 (1)	1 (29)	0 (1)	1 (50)	0 (9)	0 (0)	0 (7)	0 (16)
Psychological statistics, data analysis	31 (30)	4 (5)	68 (91)	1 (1)	104 (127)	5 (27)	1 (2)	7 (39)	0 (2)	13 (70)	2 (5)	0 (1)	1 (4)	3 (10)
Psychological research methods	28 (25)	3 (7)	60 (92)	1 (1)	92 (125)	11 (15)	0 (4)	10 (40)	0 (2)	21 (61)	2 (4)	0 (1)	1 (5)	3 (10)
Psychological experiments laboratory	36 (25)	5 (6)	76 (81)	1 (1)	118 (113)	2 (5)	0 (0)	3 (7)	0 (1)	5 (13)	0 (1)	0 (0)	0 (1)	0 (2)
Computer laboratory	9 (7)	0 (3)	21 (42)	1 (0)	31 (52)	0 (2)	0 (0)	0 (5)	0 (1)	0 (8)	0 (1)	0 (0)	0 (1)	0 (2)
Psychological assessment	8 (25)	1 (6)	19 (99)	1 (1)	29 (131)	15 (18)	1 (3)	26 (22)	0 (1)	42 (44)	1 (5)	0 (2)	1 (4)	2 (11)
Psychiatry / abnormal psychology	0 (13)	0 (3)	5 (68)	0 (2)	5 (86)	3 (13)	1 (1)	3 (38)	0 (1)	7 (53)	0 (5)	0 (1)	0 (5)	0 (11)
Clinical psychology / psychotherapy / counseling	17 (36)	3 (17)	44 (159)	1 (1)	65 (213)	13 (32)	2 (6)	30 (33)	0 (1)	45 (72)	1 (6)	0 (2)	2 (13)	3 (21)
Industrial and organizational psychology	1 (2)	0 (3)	5 (91)	0 (2)	6 (98)	0 (3)	0 (1)	0 (24)	0 (1)	0 (29)	0 (1)	0 (0)	0 (4)	0 (5)
Educational / school psychology	20 (29)	1 (18)	29 (158)	0 (2)	50 (207)	8 (27)	1 (3)	2 (45)	0 (1)	11 (76)	1 (5)	0 (2)	1 (7)	2 (14)
Criminal / forensic psychology	0 (4)	0 (2)	1 (74)	0 (2)	1 (82)	1 (6)	0 (1)	3 (27)	0 (1)	4 (35)	0 (0)	0 (0)	0 (2)	0 (2)
Health psychology	1 (11)	0 (3)	6 (79)	0 (1)	7 (94)	0 (8)	0 (0)	0 (12)	0 (1)	0 (21)	0 (1)	0 (0)	1 (3)	1 (4)
Cultural psychology	0 (6)	0 (2)	2 (21)	0 (2)	2 (31)	0 (2)	0 (0)	0 (4)	0 (1)	0 (7)	0 (1)	0 (0)	0 (2)	0 (3)
Sports psychology	0 (12)	0 (0)	4 (40)	0 (1)	4 (53)	0 (5)	0 (0)	1 (4)	0 (1)	1 (10)	0 (3)	0 (0)	0 (0)	0 (3)
Psychology of aging	1 (4)	0 (2)	3 (55)	0 (2)	4 (63)	0 (4)	0 (1)	1 (24)	0 (1)	1 (30)	0 (1)	0 (0)	1 (2)	1 (3)
Ethics of psychologist	0 (1)	0 (0)	4 (8)	0 (1)	4 (10)	2 (3)	0 (0)	4 (10)	0 (1)	6 (14)	1 (0)	0 (0)	1 (1)	2 (1)
Research project	12 (9)	1 (4)	21 (32)	1 (0)	35 (45)	3 (11)	2 (0)	9 (11)	0 (0)	14 (22)	5 (6)	2 (0)	6 (5)	13 (11)
Thesis	56 (11)	8 (9)	112 (72)	1 (1)	177 (93)	56 (10)	5 (2)	65 (15)	0 (1)	126 (28)	21 (6)	2 (1)	29 (8)	52 (15)
Internship	5 (8)	0 (2)	4 (56)	0 (1)	9 (67)	9 (8)	2 (1)	19 (9)	0 (0)	30 (18)	1 (2)	0 (0)	0 (2)	1 (4)
Japanese-unique psychology	0 (0)	0 (0)	1 (5)	0 (0)	1 (5)	0 (1)	0 (0)	0 (1)	0 (0)	0 (2)	0 (0)	0 (0)	0 (0)	0 (0)

Table 4

Format of Psychology Classes Offered at the Undergraduate (n = 343), Master's (n = 105) and Ph.D. (n = 75) Levels in Japanese universities

Format	Undergraduate program					Master's program					Ph.D. program			
	National univ.	Public univ.	Private univ.	Other/ NA	Total	National univ.	Public univ.	Private univ.	Other/ NA	Total	National univ.	Public univ.	Private univ.	Total
Lecture	858	233	5808	16	6915	479	73	1360	18	1930	92	22	111	225
Seminar	368	63	1291	0	1722	386	21	478	0	885	117	11	227	355
Tutorials by professor	120	37	149	0	306	150	20	180	0	350	58	14	78	150
Laboratory sessions	204	36	914	0	1154	76	8	206	0	290	11	0	5	16
Practicum/internship	21	0	122	0	143	73	8	98	0	179	32	0	4	36
Research assistantship	4	0	2	0	6	9	0	5	0	14	10	0	3	13
Peer tutoring	25	0	127	0	152	11	0	12	0	23	8	0	2	10
Course given in English	4	0	20	0	24	3	0	2	0	5	2	0	0	2

Table 5

Skills for Psychology Education: Frequency of Importance Ratings in Three University Categories

Item	Skills					Major with postgraduate program				Major without postgraduate program				Not as major			
						Importance				Importance				Importance			
	Research literacy	Psychology professional	Jobs in general	Life in general	$\chi^2(4)$	0	1	2	$\chi^2(2)$	0	1	2	$\chi^2(2)$	0	1	2	$\chi^2(2)$
1 To understand basic notions and prime theories of psychology	1	1	0	0	46.51**	51	25	48	8.88*	34	21	49	5.81	119	66	30	31.13**
2 To understand the history of psychological theory and methodology	1	1	0	0	45.43**	58	53	13	9.33**	59	33	12	16.51**	172	38	5	155.35**
3 To understand that humans have diversity and their minds work depending upon their group or context	0	1	0	1	59.30**	26	64	34	17.94**	20	54	30	16.85**	119	67	29	30.97**
4 Not to be based on personal experience or pseudoscience but to apply psychological notions and theories for understanding personal and social mind and behavior and solution of these problems	0	0	0	1	84.12**	23	45	56	8.81*	14	45	45	15.70**	121	59	35	35.69**
5 To lean errors and biases (e.g., confirmation bias, confounding correlation with causality, etc.) to which humans are susceptible, and to acquire critical thinking; not to be biased.	1	0	0	1	84.50**	33	55	36	6.07*	30	53	21	9.93**	151	46	18	96.26**
6 To construct a testable hypothesis based on operational definition	1	0	0	0	162.40**	26	44	54	6.17*	30	49	25	6.28*	174	34	7	165.02**

7	To search prior literature for evidence	1	1	0	0	174.41**	27	39	58	5.51	22	50	32	11.33*	173	34	8	162.19**
8	To read scientific journals of psychology in Japanese	1	1	0	0	185.65**	24	37	63	8.25*	22	51	31	12.22**	170	39	6	148.89**
9	To read scientific journals of psychology in English	1	1	0	0	79.21**	58	47	19	6.96*	72	23	9	43.39**	195	16	4	254.54**
10	To create and comprehend tables and figures to show results of experiment or survey	1	1	1	0	171.96**	22	29	73	13.49**	11	40	53	17.51**	155	41	19	109.29**
11	To comprehend and conduct inferential statistical analysis (t-test, ANOVA, etc.)	1	0	0	0	188.84**	17	37	70	15.47**	10	49	45	23.78**	155	45	15	106.03**
12	To comprehend and conduct multivariate analysis (factor analysis, etc.)	1	0	0	0	127.78**	37	68	19	17.12**	40	50	14	7.01*	184	30	1	199.31**
13	To comprehend experimental design and validity of measures and to run an experiment	1	0	0	0	147.44**	26	44	54	6.17*	29	49	26	6.60*	166	41	8	136.40**
14	To plan and run a questionnaire survey and to analyze its data	1	1	0	0	150.09**	22	62	40	19.34**	14	64	26	36.89**	155	48	12	103.88**
15	To acquire IT skills (computer skills) needed for research	1	0	1	1	155.85**	27	63	34	16.15**	25	57	21	16.69**	174	33	8	166.09**
16	To write a report logically based on evidence	1	1	1	0	161.02**	17	34	73	16.39**	14	40	50	13.58**	149	45	21	92.66**
17	To acquire communication skills for debate and presentation	1	0	1	1	141.12**	19	56	49	17.46**	24	42	38	4.93	158	43	14	114.66**
18	To write a paper following the writing manual of a scientific journal such as *Japanese Journal of Psychology*	1	0	0	0	88.26**	61	38	25	9.23**	70	24	10	38.58**	201	10	4	285.52**
19	To write an English paper following the writing manual of the APA	1	0	0	0	8.71	118	5	1	173.17**	100	4	0	149.25**	214	1	0	351.36**
20	To utilize the knowledge of psychology for comprehension of oneself, self-management, and development of oneself	0	0	0	1	48.68**	51	58	15	8.34*	20	60	24	24.41**	128	64	23	44.42**

21	To utilize the knowledge and practice of psychology for the decision of future path and career development	0	1	0	0	62.79**	57	43	24	5.59	21	59	24	22.16**	142	57	16	71.25**
22	To comprehend frequently used questionnaires, intelligence tests, developmental tests, and projective tests and to use them for assessment (implementation, interpretation, feedback, etc.)	1	1	0	0	93.11**	51	51	22	4.05	30	53	21	9.93**	171	37	7	153.55**
23	To acquire basic skills and attitude of counseling and psychotherapy and to practice these	0	1	0	1	34.40**	79	35	10	34.54**	46	45	13	6.16*	166	40	9	137.29**
24	To be committed in a group or a community and to support it following psychological knowledge	0	1	1	1	26.03**	75	44	5	26.72**	48	44	12	6.99*	156	43	16	109.93**
25	To respect social, cultural, and personal diversity	0	1	1	1	48.51**	52	63	9	13.33**	34	57	13	13.78**	147	49	19	85.62**
26	To understand ethical issue around the protection of participants in psychological study and to be ethical when conducting such a study	1	0	0	0	92.01**	58	41	25	6.33*	48	39	17	5.16	191	19	5	236.48**
27	To understand ethical issues around interpersonal assistance and to be ethical in this context	0	1	0	1	29.07**	94	23	7	74.41**	57	41	6	14.72**	176	31	8	174.08**

Note: *:$p < .05$, **:$p < .01$

Note. Importance: 0 = unimportant, 1 = important, and 2 = very important.

Table 6

Mean Scores (SDs) of Skills by Three University Categories

Skills	Major with graduate program	Major without graduate program	Not as major
Research literacy	1.01 (.49)	.91 (.41)	.26 (.34)
Psychology professional	.88 (.43)	.92 (.36)	.33 (.35)
Jobs in general	1.11 (.54)	1.11 (.48)	.38 (.46)
Life in general	.82 (.45)	.91 (.44)	.39 (.43)

Table 7

Number of Psychological Programs Designed to Let Students Obtain Some Prevalent Psychology-Related Qualification

Programs		Undergraduate program				Master's program				Ph.D. program			
		National univ.	Public univ.	Private univ.	Total	National univ.	Public univ.	Private univ.	Total	National univ.	Public univ.	Private univ.	Total
# of programs considered		41	12	134	187	39	8	65	112	14	5	30	49
Certified psychologist	1[a]	25	5	93	123	3	0	4	7	1	0	1	2
	2[b]	1	1	16	18	0	0	0	0	0	0	0	0
Social researcher	1	4	1	22	27	2	0	4	6	1	0	3	4
	2	0	0	1	1	0	0	0	0	0	0	0	0
Advanced social researcher	1	–	–	–	–	2	1	5	8	1	0	2	3
	2	–	–	–	–	0	0	0	0	0	0	0	0
School psychologist	1	–	–	–	–	8	0	14	22	1	0	2	3
	2	–	–	–	–	2	0	0	2	0	0	0	0
Clinical Developmental	1	–	–	–	–	4	0	12	16	0	0	5	5
	2	–	–	–	–	3	1	1	5	0	0	0	0
Certified clinical psychologist	1	–	–	–	–	5	1	11	17	0	0	1	1
	2	–	–	–	–	8	2	30	40	2	0	0	2
Certified psychiatric social worker	1	0	3	20	23	0	0	0	0	0	0	0	0
	2	1	0	1	2	1	0	0	1	0	0	0	0
Teacher's certificate	1	16	8	76	100	10	1	16	27	1	0	2	3
	2	16	0	4	20	7	0	0	7	0	0	0	0

Note. a: "1" indicates that the program is designed to let students obtain the corresponding qualification。

b: "2" indicates furthermore that more than half of students obtain the qualification.

Table 8

Job Distribution After Graduation

Jobs	Undergraduate program				Master's program				Ph.D. program			
	National univ.	Public univ.	Private univ.	Total	National univ.	Public univ.	Private univ.	Total	National univ.	Public univ.	Private univ.	Total
# of program considered	33	8	85	126	32	4	42	78	10	2	8	20
Total # of graduates	2980	548	8664	12192	575	39	406	1020	109	6	24	139
Teacher	319	23	522	864	145	1	17	163	38	0	6	44
Public services (psychology)	23	1	15	39	34	3	34	71	1	0	0	1
Public services (other)	159	32	251	442	24	0	14	38	3	0	0	3
Psychological/educational services	58	10	129	197	23	1	66	90	7	0	0	7
Medical/welfare services	87	37	1075	1199	63	6	111	180	6	0	3	9
Professional services	27	0	39	66	20	0	8	28	19	0	3	22
Media/information communication	105	27	266	398	14	3	5	22	2	0	0	2
Other services	147	55	618	820	10	0	5	15	0	0	0	0
Primary industry	8	2	18	28	1	0	0	1	0	0	0	0
Construction industry	39	5	156	200	4	0	0	4	0	0	0	0
Manufacturing industry	170	11	368	549	21	0	2	23	0	0	0	0
Infrastructure indsutry	21	3	16	63	0	0	0	0	0	0	0	0
Transport industry	44	1	142	332	1	0	0	1	0	0	0	0
Retail distribution services	189	30	1042	1302	11	0	0	11	0	0	0	0
Financial indsutry/real estate	230	16	526	663	7	0	0	7	0	0	0	0
undecided	121	13	480	801	24	0	5	29	11	0	0	11
Higher education	308	50	533	610	78	0	34	112	0	0	0	0
Other courses including studying abroad	27	4	116	170	5	0	2	7	0	0	1	1
Unknown	50	43	473	671	13	0	18	31	0	0	0	0
Others	155	18	690	863	65	4	73	142	16	0	8	24

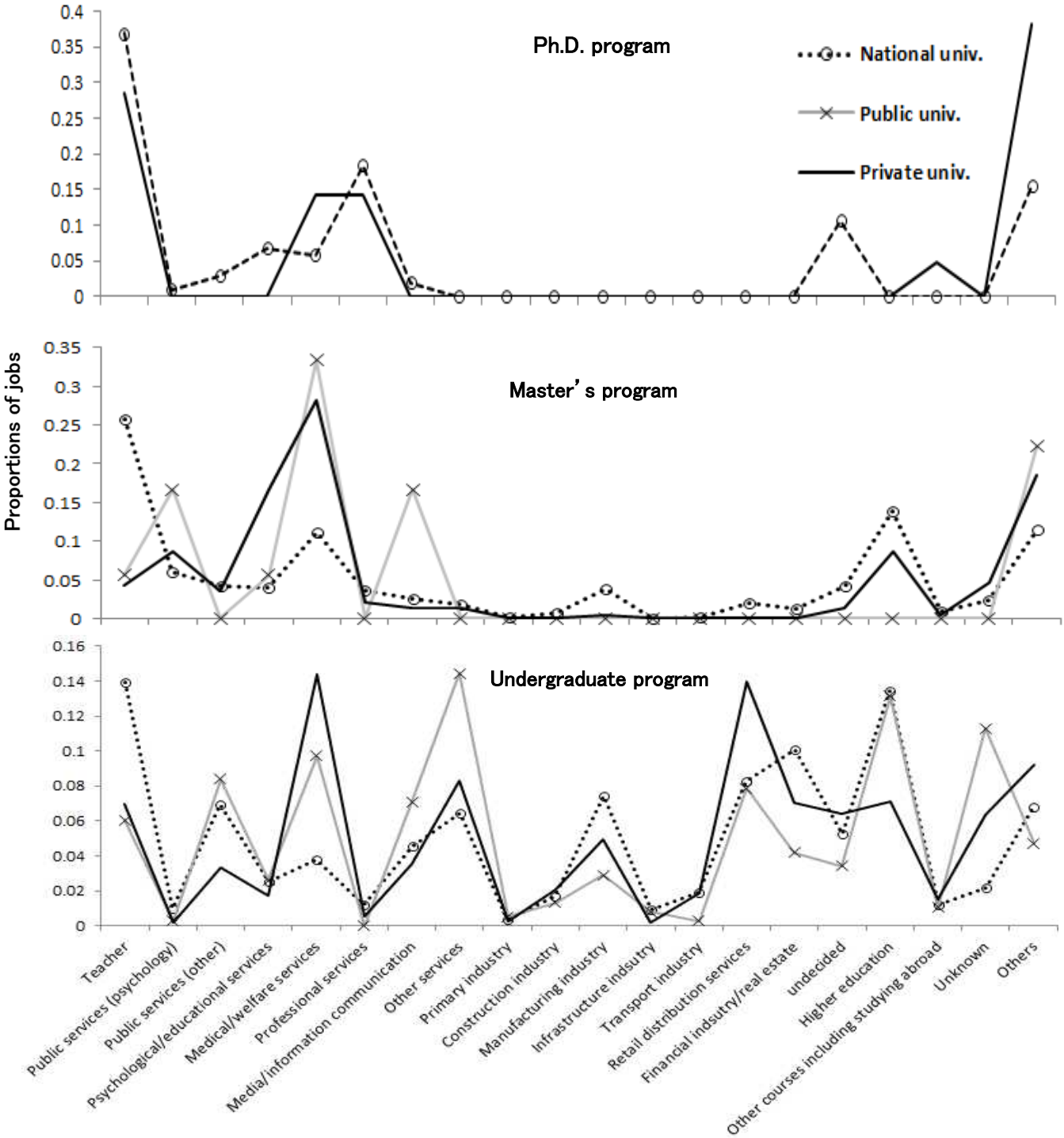

Figure 1. Breakdown of graduates by occupation after graduation (see Table 8).

Note. Public universities are not considered for the Ph.D. level due to the small number of responses.